

Claims:

1. A surgical retractor for use within a body cavity, comprising:

- a) an elongate swivel having a first end and a second end;
- b) a first length of string extending from said first end of said swivel;
- c) a second length of string extending from a point substantially midway between said first end and said second end, said first and second lengths of string having sufficient length such that either may be pulled from outside the body cavity, such that

pulling on said second length of string causes said swivel to be oriented substantially perpendicular to said second length of string, and

pulling on said first length of string causes said swivel to be oriented substantially coaxial to said first length of string.

2. The surgical retractor according to claim 1, wherein:

said swivel is substantially cylindrical with said second end being substantially conical.

3. The surgical retractor according to claim 1, wherein:

 said swivel has a surface groove extending substantially from said first end to said point substantially midway between said first end and said second end, said surface groove having a depth sufficient to receive said second string.

4. The surgical retractor according to claim 1, wherein:

 said first end of said swivel has a keyway for engaging a deployment tool.

5. The surgical retractor according to claim 2, wherein:

 said swivel has a reduced diameter portion adjacent to said first end.

6. The surgical retractor according to claim 1, wherein:

 said swivel has an outer surface, an axial bore extending from said first end to said point substantially midway between said first end and said second end, and a radial bore extending from said axial bore to said surface at said point substantially midway between said first end and said second end.

7. The surgical retractor according to claim 6, wherein:
said first and second lengths of string are parts of a single length of string passing through said axial and radial bores.
8. The surgical retractor according to claim 6, wherein:
said first and second lengths of string are joined together where said axial bore intersects said radial bore.
9. The surgical retractor according to claim 1, further comprising:
 - d) a spring biased safety shield, wherein
said swivel is substantially cylindrical with said second end being sharp and covered by said safety shield.
10. The surgical retractor according to claim 1, wherein:
said first end of said swivel has a curved surface.

11. The surgical retractor according to claim 1, further comprising:

- d) a hollow tube having a proximal end and a distal end, said first end of said swivel being removably mounted in said distal end of said tube; and
- e) a pushrod having a proximal end and a distal end, said pushrod extending through said hollow tube with said distal end of said pushrod facing said first end of said swivel.

12. The surgical retractor according to claim 11, wherein:

said pushrod is hollow and said first and second lengths of string extend through said hollow pushrod and out of the proximal end of said hollow pushrod.

13. The surgical retractor according to claim 12, further comprising:

- f) a housing coupled to said proximal end of said hollow tube;
- g) a push-button captured by said housing, wherein pushing said push-button into said housing engages said pushrod and moves it distally, pushing said swivel out of said distal end of said hollow tube.

14. The surgical retractor according to claim 13, wherein:
said push-button has an axial bore and a radial bore, said
first and second lengths of string extending through said axial
bore and said radial bore.
15. The surgical retractor according to claim 14, wherein:
said push-button and said housing have mutual locking means
for locking said push-button in a depressed position.
16. The surgical retractor according to claim 15, wherein:
said mutual locking means includes a locking ring on said
push-button and a locking groove in said housing.
17. The surgical retractor according to claim 11, wherein:
said distal end of said pushrod and said first end of said
swivel are engaged by a key and a keyway.
18. The surgical retractor according to claim 11, wherein:
said pushrod is substantially solid having first and second
longitudinal surface grooves,
said first and second lengths of string extending along said
first and second longitudinal surface grooves and out of the
proximal end of said hollow tube.

19. The surgical retractor according to claim 18, wherein:
said first end of said swivel has a curved surface and said
distal end of said pushrod has a curved surface.

20. The surgical retractor according to claim 1, wherein:
said first length of string and said second length of string
are visually distinguishable.

21. The surgical retractor according to claim 20, wherein:
said first length of string and said second length of string
are different colors.

22. A method for retracting tissue during surgery, said method
comprising:
a) introducing an elongate swivel into a body cavity and through
the tissue to be retracted, the swivel having a first length of
string coupled to one end and a second length of string coupled to
a point substantially midway between its ends; and

b) pulling on the second length of string from outside the body
cavity until the tissue is retracted.

23. The method according to claim 22, further comprising:
c) clamping the second length of string outside the body cavity.

24. The method according to claim 23, further comprising:
- d) unclamping the second length of string; and
 - e) pulling the first length of string to remove the swivel from the body cavity.
25. The method according to claim 23, further comprising:
- c) releasing the second length of string; and
 - d) pulling the first length of string to remove the swivel from the body cavity.